THE EVACUATION OF THE SICK AND WOUNDED ON THE NORTH-WEST FRONTIER OF INDIA.

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PART I.

During recent years many articles have been written concerning the evacuation of sick and wounded of fighting formations when operating in a civilized country such as France. In this article it is proposed to describe some aspects of the work of the front line Medical Service when operating with troops on the north-west frontier of India where warfare is of an entirely different nature, owing to the mountainous and almost woodless terrain, the absence of buildings of European type or, indeed, habitations of any kind, and the long distances between fighting zones and bases over which the difficulties of transportation are but slightly mitigated by the existence of railways. Variations in temperature from extreme heat in summer to intense cold in winter have also to be taken in account. All the above factors are more or less common to the entire extent of the north-west frontier. They are the outstanding features of the Mahsud territory of Waziristan which was the scene of the military operations in 1919-1920, that afforded the experience upon which this narrative is based.

It will be remembered that the Waziristan tribes—the Tochi Wazirs, the Mahsuds, and the Wana Wazirs—rose in revolt against us on the outbreak of the Afghan War in May of 1919. On the conclusion of peace with Afghanistan, in the late summer of that year, it was decided to dictate terms to the tribes, and, if they did not accept and comply with these terms,
to launch military operations with a view to occupation of the tribal territory, and particularly the Māhsud country, until our terms were complied with. An advance in force up the Tochi valley was accordingly commenced in November, 1919, by a column designated the Tochi Column. On the appearance of this force the Tochi Wazirs, the less resolute and more vulnerable tribe, at once submitted, accepted the terms imposed and the operations of the column in that area terminated on November 27, 1919.

The Māhsuds, however, refused the terms, as infringing their independence, and military operations were consequently undertaken with the definite object of subjugating and occupying their country. The force employed for this purpose concentrated at Tank and Khirgi (see figure I) between December 4 and 12, 1919, and was known as the Deraja Column. It is intended to discuss here only the work of evacuation of sick and wounded of this column.

The preliminary advance up the Tochi Valley yielded few sick or wounded, but the work connected with their disposal afforded the medical units, which were afterwards transferred to the Deraja Column, an excellent opportunity of discovering and rectifying faults and deficiencies before being thrown into contact with the heavy fighting subsequently
encountered in the advance against the Mahsuds. A brief description of the geographical features of the Mahsud country and its inhabitants will be helpful in appreciating the difficulties met with in details concerning the evacuation service during warfare of the nature in question.

The Waziristan terrain consists mainly of interminable barren rocky mountains of from two to eleven thousand feet elevation above the desert plain of Dera Ismail Khan. The mountains are intersected by numerous stony ravines or nullahs and they rise extremely steep from the interlacing valleys through which a river or stream may flow. The nullahs afford excellent places of ambush. The route traversed by the Derajat Column lay through the valley of the Tank or Takhi Zam. This river is formed by the junction near the village of Dwa Toi, of two watercourses—named the Baddar Toi and the Dara'oi. The source of the former is in the region of Kaniguram, and the latter on the slopes to the north and west of Makin. These two villages are the largest in Waziristan. In Makin and its vicinity the most turbulent tribesmen live. The bed of the Takhi Zam forms the natural highway from Khirgi into the heart of the Mahsud country. Except at four places—the Ahnai and Barari Tangi, Dwa Toi and Marobi—where the valley narrows to a mere gorge with precipitous rocky hills on either side, the route is broad and spacious and affords ample room for troops and baggage animals to march four or five lines abreast.

The river bed is composed of boulders and stones of all sizes and in the course of the running stream marked variations in the depth of the water occur. The river pursues a very irregular winding course necessitating frequent wading from one side to the other, which renders marching a very tedious and, in places, difficult proceeding. The hills rising on each side of the river bed in its lowest reaches are characteristically ragged, barren and rocky, with very little vegetation. Higher up shrubs grow on the hills-side, where the general elevation approximates 4,500 feet. These are mostly the gurgura (Reptoria boxifolia), a species of wild plum. As the altitude increases the better developed the shrubs become, whilst from Piazza upwards wild olive trees and the ilex are seen in profusion.

Every mile or so along the bed of the river there are patches of cultivation. These fields or plots are nearly all artificially constructed by the inhabitants, and are formed by revetments of timber, stones and brushwood run out from the river bank at right angles to the stream. Sifting of mud is thus produced above these dams, and gradually quite extensive areas of rich cultivable soil are formed. The chief crops grown are wheat and maize. Sheep and goats thrive, in moderate herds, especially at the higher altitudes. The Mahsud did not appear to possess either cows or buffaloes, but, possibly, these animals were kept hidden owing to fear of confiscation.

The climate varies according to the altitude of the place. In the lower reaches of the river it is moderately cold in winter and intensely hot in the summer. Higher up the climate is more equable, and consequently more endurable without discomfort. At 5,500 feet the winter is very cold, the
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temperature quite often dropping 10° or 15° F. below freezing point. In the summer it is distinctly warm during the day, but not unpleasantly so, and the nights are always beautifully cool, necessitating the use of a blanket. Rain and snow fall at intervals in the winter, chiefly in January and February. Bursts of extremely heavy rain often occur in July. As a result of these sudden thunder showers at that time of the year the river rises very rapidly. The water comes down in the form of a bank from three to six feet high, travelling at a rate of six to eight miles per hour. These “spates,” as they are called, are frequently dangerous, as they give little time for men or animals to reach points of safety, especially if marching with a convoy of camels.

Inhabitants.—The inhabitants of Waziristan consist of the Wazirs and the Mahsuds—both are descended from the original Wazir, who belonged to the Kakai branch of the Ghurghusht Pathans. The two tribes, although of common origin, have been feudal enemies throughout very many years, but sometimes co-operate with each other against a common enemy, and they thus combined to oppose the British forces employed in the operations under discussion. The Wazirs are divided into two sections, the Wana Wazirs living in the country round Wana, in Shakin, and on the western border of Bannu, and the Tochi Wazirs who inhabit the Tochi and the Shawal districts and the valleys of the Kaisara, Kaitu, and Kunam rivers. The Mahsuds live in the heart of Waziristan, their territory being bounded on the north, south, and west by that of the Wazirs, and on the east by the Batanni country. Their chief villages are Karniguram (5,800 feet), and Makin (5,500 feet).

The points noted here concerning the characteristics of the Mahsud may be taken as being equally applicable to the Wazir. The average Mahsud is a fine robust, well-built man, about five feet ten inches in height. Muscularly he is very well developed, more especially about the legs and arms. His skin is of a pale brown hue, distinctly fairer than the northern Indian. His eyes are steel grey; at times looking almost blue. His normal raiment is of a very rough type, consisting of a dirty pagri, whitish, blue or red, tied rope fashion, round the temples. On his body he wears a grey, hand-woven woollen smock surmounting dirty white cotton pyjamas, and round the waist a piece of cloth, not unlike a Scotch plaid, which he uses as a blanket at night. Stuck into this waist cloth, and generally hidden away, every Mahsud carries a steel knife, many of which are manufactured at Karniguram. Some of these knives are beautifully decorated both on the blade and on the handle. In addition, they possess a very considerable number of rifles of all descriptions, including the modern ‘303’ magazine type in abundance and large numbers of Martini and other breach-loading rifles. The ancient breach loaders they never used during the 1919-20 operations except at night. They had no artillery, machine-guns, or bombs. On their feet they wear sandals or “chaplis,” made of plaited grass or from the leaf of the dwarf palm.
They are amazingly mobile, independent of transport, and they possess a genius for ambush and taking cover. They are excellent shots and rarely fire blind. Many of them have served in the Indian Army and some, no doubt, have been highly trained in our tactics and methods of fighting. They are certainly no fools and they possess a keen sense of humour. Their dwellings are chiefly made of mud and straw with interlacing wattle and beams of rough wood. They also use caves, often cut deep into the side of a hill. These as it happened afforded them a perfectly safe refuge against attack from the air.

Their knowledge of medicine and surgery is extremely crude. After the occupation of Ladha an aid post was established outside the perimeter of the camp for the purpose of treating any of their sick or wounded who cared to come along. Many availed themselves of the opportunity. The degree of sepsis present in nearly all cases of wounds was appalling. Often a mass of maggots was exposed after stripping the wound of the filthy wrapping of cloth in which it was covered. As a rule it was very difficult to persuade the patient of the necessity for operation which, in many cases, meant amputation of a limb. The patient’s friends generally preferred to take him away and trust to fate and a bottle of medicine or a pill. In the latter they had great faith. So far as my observations extended it was undoubtedly a case of trusting to the survival of the fittest amongst these people, who in so many other ways showed a comparatively high standard of intelligence and mental efficiency.

The above brief description of the Mahsuds and their country will indicate, to a certain extent, how widely the warfare in which they were involved differed from the warfare in Europe during the Great War.

The Derajat Column, which, as previously stated, assembled at Tank and Khirgi between December 4 and 12, 1919, was composed as follows:

Column Headquarters Staff, one regiment Cavalry (less one squadron), one section 3.75 howitzers, two Indian Mountain Batteries with the Derajat Brigade Mountain Artillery Brigade Ammunition Column, two Field Companies Sappers and Miners, Survey Section, three Brigade Signal Sections, one Headquarters Signal Company, one Mountain Artillery Brigade Signal Sub-section, two Pack Wireless Stations.

Pioneers.—Two battalions of Pioneers, South Waziristan Militia Scouts.

Medical.—Two Indian Field Ambulances, one Combined Field Ambulance, one Bearer Unit, five Combined Staging Sections, one Sanitary Section.

Supply.—One division S. & T. Headquarters, one division Troops Supply Section, one division Supply Column, one division Supply Park, half a Bakery Section, and half a Butchery Section.

Transport.—Four Mule Corps, four Camel Corps.

Infantry.—Three Indian Infantry Brigades, each with four battalions, a Brigade Supply Section, half a Bakery Section and half a Butchery Section.
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On the lines of communication behind the Column, on December 12, there were the following Medical Units: One Combined Casualty Clearing Station at Khirgi itself, intended for Jandola; one Indian General Hospital at Manzai; one Combined Field Ambulance at Kaur Bridge; one Indian General Hospital at Tank; one Indian General Hospital at Dera Ismail Khan; one Motor Ambulance Convoy Headquarters at Manzai; one Ambulance train.

Railhead for sick and wounded was at Kaur Bridge. The actual striking Column normally consisted of: Two Mountain Batteries, one company Sappers and Miners, one Signal Company, one battalion of Pioneers, six battalions Indian Infantry, one Indian Field Ambulance, one Combined Field Ambulance, one Bearer Unit, a Supply Column carrying four days' rations.

The Derajat Column, the composition of which has been above stated, was commanded by Major-General A. Skeen, C.M.G., with Colonel T. Stodart, I.M.S., as A.D.M.S., assisted by Major T. S. Dudding, R.A.M.C., as D.A.D.M.S., who was also Sanitary Officer of the Column.

This Column was a part of the Waziristan Field Force commanded by Major-General S. H. Climo, C.B., D.S.O., with Colonel C. W. Profeit, C.M.G., D.S.O., as D.D.M.S., assisted by three D.A.D.s.M.S., Major G. S. Wallace, R.A.M.C. (Water Purification), Major D. Cootts, I.M.S. (till January 14, 1920), Major J. W. Jones, D.S.O., I.M.S. (from January 14, 1920), and Major J. S. Sinton, V.C., I.M.S. (sanitation).

The Lines of Communication were commanded by Brigadier-General H. C. Tytler, C.M.G., D.S.O. as I.G.C. with Colonel Corry Hudson, D.S.O., I.M.S. as A.D.M.S., assisted by three D.A.D.s.M.S., Major R. B. Myles, R.A.M.C., to February 14, 1920), Major O. W. J. Wynne, R.A.M.C. (from February 14), Major H. H. Mulholland, R.A.M.C. and Major R. E. Flowerdew, I.M.S.

The headquarters of the Waziristan Force and the headquarters of the I.G.C. were both located at Dera Ismail Khan.

In addition to the administrative medical officers above enumerated there was an A.D.M.S. Advanced Lines of Communication, Colonel A. M. Fleming, I.M.S., who had his headquarters at Jandola.

The A.D.M.S. Derajat Column was responsible for the medical administration from the immediate area of contact with the enemy to a point midway between the location of the Column Headquarters' Camp and the next permanent camp towards the base, the A.D.M.S. Advanced Lines of Communication was responsible for the medical administration from this point down to Jandola, the A.D.M.S. Lines of Communication was responsible for the medical administration from Khirgi (road head) to Dera Ismail Khan, and the whole of the medical administration was commanded by the D.D.M.S. under the direct orders of the General Officer Commanding Waziristan Field Force. The map (fig. 11 supplemented by the diagram
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fig. III) shows the geographical relationship of the concentration area, the area of operations and the lines of communication to the main base at Dera Ismail Khan.

This article is only intended to exemplify the difficulties or differences met with by the Medical Service in the forward area. To elucidate these it is proposed, after describing the methods of transportation, to follow the fate of a wounded man from the time he became a casualty in the fighting front until he arrived at the stage of evacuation where his further progress came under the control of the authorities of the Permanent Lines of Communication at Khirgi. The medical formations and posts for dealing with the casualties in the forward area were organized on practically the same system as regards function and nomenclature as that
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described in R.A.M.C. training, and familiar to all R.A.M.C. Officers who had experience in the forward areas in France during the Great War. There were regimental aid posts, advanced and main dressing stations, field ambulances and clearing stations. The latter in the area of operations were represented by combined staging sections. They were originally stationary hospitals organized as separate units for British troops and Indian troops, but were found unnecessarily unwieldy for the

requirements of frontier warfare, and consequently they were reduced in size and became "staging sections," combined in the sense that accommodation was made available in such a unit for both British and Indian troops. The chief differences in the practical working of the front line medical service were in the methods and means of sick transport, the type of personnel employed, the staging of evacuation convoys, and the fact that the forward line of evacuation was through enemy territory and was liable to hostile attack throughout its entire length.

Figure III

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<th>LOCATION WHEN DERAJAT COLUMN WAS AT LADHA IN READINESS FOR THE MARCH ON KARNIGURAM.</th>
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<tr>
<td>From halfway between Ladh and Piazza to Base organisation and administration was under L. of R, except the C.S.S at 2.7.39, which was under orders of G.O.C. Derajat Column.</td>
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<tr>
<td>Khirgi was the roadhead where patients were transferred to motor ambulances and conveyed to Manzar 15.11. at 5 miles away.</td>
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This diagram illustrates the location and organization of medical units during the evacuation process on the frontier of India.
As the Column advanced into the Mahsud country from the concentration area around Khiirgi, the distance from that place increased up to a total of forty-two miles when the main body of the Column occupied Karniguram on March 6th, 1920, and the immediate objective of the operations was gained. The journey of a wounded or sick man over the above distance usually took six days, halts for the night being made at Karniguram, Ladha, Fiza Raighza, Sorarogha, Kotkai and Jandola, posts where all sick convoys from Ladha to Kotkai were dealt with by combined staging sections, and at Jandola by a combined casualty clearing station.

During the earlier part of the operations when heavy casualties were expected, two sections of the reserve Indian field ambulance and one of the combined staging sections were actually located at the main column headquarters camp, and so placed that they were able to open up immediately if the necessity arose. The remaining two sections of the reserve Indian field ambulance and one combined staging section were within six hours recall, and the other three combined staging sections within twenty-four hours recall. The locations of the combined staging sections were determined under the order of the column commander. The normal procedure was to bring up the staging sections as the line advanced, and when suitable sites for permanent camps on the lines of communication had been selected. Thus, as the advance progressed into the heart of Waziristan the lines of communication extended. This necessitated the gradual transfer to the lines of communication command of certain troops, originally under the direct orders of the General Officer Commanding Derajat Column, and utilized for the protection of the lines of communication up to the immediate area of contact with the enemy.

A short description of the medical units enumerated in the order of battle is necessary, as they differ considerably from corresponding British Army units.

The medical personnel attached to an Indian infantry battalion consisted of one medical officer (a lieutenant or captain, L.M.S., T.C.), one sub-assistant surgeon,1 or if not available, a dresser.

The regimental stretcher-bearers were sixteen to a battalion.

The Indian Field Ambulance.—As has been already stated in the order of the battle, there were on the strength of the Derajat column two Indian field ambulances and one combined field ambulance. At that time an Indian field ambulance was a field medical unit equipped to accommodate 100 Indian patients. It had no arrangements for the reception of European patients. The unit was divided into four sections, each com-

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1 Sub-assistant surgeons are Indians of good education who have undergone a four years' course at one or other of the medical colleges specially established for their instruction. Many of them are highly competent men, possessing a very sound knowledge of medicine. Dressers were young Indians who had not fully completed the course of sub-assistant surgeons, and in some cases were medical students temporarily withdrawn from their university during the war.
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mandated by an officer of the Royal Army Medical Corps or Indian Medical Service, and capable of working independently.

The Combined Field Ambulance was a similar unit, with the exception that there was one British section and three Indian sections. The former was equipped in personnel and material for the reception and accommodation of twenty-five British soldiers, the total accommodation being 100 all in tents.

The Bearer Unit was utilized to augment, when and where required, the bearer personnel allotted to regimental units and field ambulances, and was employed generally for collection and carrying patients, and supervising the transport arrangements for sick and wounded proceeding down the line. Further reference to its composition and work will be made later when discussing the transportation arrangements.

The Combined Staging Sections, as previously stated, were made up of one British staging section and one Indian staging section. These used to be known as British or Indian stationary hospitals. The combined unit was capable of accommodating 100 patients.

The establishments of the above medical units will be found in the Appendix to this narrative, together with revised establishments devised after the experiences of this campaign.

We now come to the methods employed for the transportation of the sick and wounded in mountain warfare. How to ensure reasonably rapid and effective means of transport of wounded within the limits imposed by the military operations, and the natural obstacles incidental to the circumstances of particular warfare, is one of the most important questions to be studied and duly appreciated by the medical service of armies. The question at all times demands the most precise preliminary consideration and provision of possible variations in practical execution, but this is so to a greater degree in mountain warfare than in any other. The preservation of the lives of soldiers disabled by injury or disease and the end results of surgical treatment depend directly on efficient means of transport and the initial manner in which the sick or wounded are handled, and not only does the efficiency of this service affect the physical welfare of the Army, but it also exercises a great and direct influence on the moral tone and degree of confidence in the troops, and consequently on the fighting results and ultimate success, or otherwise in defeating the enemy. This was markedly exemplified in the recent European War in the case of the British Armies in France, where the methods and administration of the collection and transportation of the sick and wounded were carried out with an efficiency.

1 The Combined Field Ambulance is a creation of the war, and is a substitute for a whole British field ambulance which was found wasteful when the strength of British troops in a formation was not great.

2 The Bearer Unit was mobilized from No. 3 Company Army Bearer Corps, Lahore, by Captain D. Reynolds, M.C., R.A.M.C., and commanded by him in the field.
never before attained in any previous campaign. There, however, apart from limitation of movement imposed by the enemy, the natural hindrances were negligible, and all the facilities afforded by good roads and railways and mechanical transport were available. The problem assumes a very different and incomparably more difficult aspect when applied to the roadless, mountainous terrain of Waziristan, where aid by modern mechanical vehicles and steam is inapplicable, and reliance has to be placed wholly on man power, assisted only by those primitive methods of animal transport which are determined by the natural conformation of the inhospitable terrain.

Consequently there were but three means available for transporting sick and wounded.

1. By man carriage on stretchers.
2. By ponies for riding.
3. By camels carrying "kajawahs."

The use and peculiarities of these various methods in this campaign of 1919-20 will be referred to later when describing the journeyings of a patient from the time he was wounded down to his arrival at the base, but here an endeavour will be made to describe the type of carriage available with some historical remarks of interest concerning them.

**Man Carriage on Stretchers.**—The ordinary G.S. stretcher was used almost exclusively in the campaign and was found to be the best man-handled conveyance for the type of country and with the personnel available. All seriously wounded were carried by this means.

The modern dhoolies were not used for several reasons. Firstly in the forward area they were found to afford much too good a target for enemy snipers, secondly the constant fording of the river which in places came above the knee in depth made it difficult for dhoolie bearers to avoid wetting the patient, and thirdly the class of men available for carrying the dhoolies was not sufficiently versed in the best ways of carrying a dhoolie or accustomed to difficulties peculiar to these cumbersome articles which have to be overcome if patients conveyed in them are to be saved serious discomfort. The problem of providing good dhoolie bearers in Northern India is an extremely difficult one at the present time.

This form of transport in years gone by was the commonest in use in India, not only for sick and wounded, but also for ordinary progression from place to place. In the first half of the nineteenth century dhoolie bearers were so numerous in this country that they formed a considerable bulk of the labouring population, so much so that they composed a distinct caste called "Kahars." At that time and for many years subsequently the number required for the army could be recruited without the slightest difficulty; now, however, in the twentieth century, since the development of roads throughout the country, the advent of railways, motor cars and other forms of mechanical transport, the dhoolie has fallen into almost complete disuse except in a few districts where it is still employed by a very small
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minority of the population. The result is that the true dhoolie bearers of India have almost become extinct, making it well-nigh impossible to recruit men of this class for the Army.

The difficulty of obtaining the right type of men for dhoolie bearers dates back to 1860, when General Sir William Mansfield, after his experiences when serving under Lord Gough in the Punjab and in the Peshawar Valley, wrote a very strong report on the subject. The following are a few extracts of the comments on the report:

"There is nothing, therefore, in Sir William Mansfield's opinion, so much to be deprecated as reducing our old system of dhoolies and dhoolie bearers. On the whole he would rather see the number of combatants diminished than that of the dhoolie bearers. His experience is founded on observations of the campaigns of Lord Gough in the Punjab, which were altogether carried on away from metalled roads, on tedious operations in the Peshawar Valley, where there were no roads at all, and again in all recent affairs. As regards movable columns, it may be held as a certainty that they will always have to operate away from metalled roads. It should be borne in mind that dhoolie bearers should be kept up in India very much as if they were a breed of draught animals. The Finance Commission is possibly not aware that there is already a great falling off in this description of labour in consequence of great posting roads having been opened in late years. It may be assumed that, as the railway system becomes more and more developed, the dhoolie bearers will forget their craft, and devote themselves altogether to other labour."

Sir H. Rose, Commander-in-Chief in India, agreeing with the views expressed by Sir W. Mansfield, wrote:

"There can be no doubt that for the requirements of India no system can be introduced more effectually than the dhoolies or dandies as heretofore employed, by which means wounded men could be transported from the hillside, broken ground, or other locality where they were struck down, to their respective hospitals, and that too over ground of any nature."

The above recommendations by two eminent highly experienced soldiers were apparently ineffective, for the histories of subsequent Frontier campaigns record the difficulties experienced in the evacuation of the wounded owing to the inefficiency of dhoolie bearers supplied.

Surgeon-Major Evatt, in his "Personal Recollections of the Afghan Campaigns of 1878-79-80," remarks:

"The convoy consisted of fifty European and thirty native sick. There was a mass of several hundred dhoolie bearers, undisciplined, practically unorganized and without any staff to keep them in order"; and again

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1 Report by the Officiating President of the Sanitary Commission for Bengal to the Secretary to the Government of India, Military Department, dated Calcutta, January, 1865.
3 Ibid., p. 415.
"The native establishment given to work the hospital were wretchedly bad, literally and actually the lame, the halt and the blind, as Falstaffian a corps as any man could ever see, without discipline, without uniform, or drill, or arms or anything to distinguish them from the coolies of the Mian Mir bazaar."

Surgeon Major-General T. Maunsell, C.B., Army Medical Staff, late Principal Medical Officer Chitral Relief Force, remarked in his official report on the Chitral Relief Force of 1895, that "Kahars were for the most part untrained and of poor physique and of the 'Chamar' class. In the hilly regions, partly owing to their poor physique and partly to the weight of the dandies, it took eight of them (occasionally twelve, and even more) to carry a European soldier, and even then got into camp late."

As a result of the many complaints made about the inefficiency of the then available dhoolie bearers, a proposal was put forward in 1901 for the formation of a corps of bearers, and in August, 1902, the Secretary of State authorized the formation of an Army Bearer Corps, which was to form an integral part of the Military Medical Service in India. From this date endeavours were made to enlist as many men as possible of the "kahar" class, who from their childhood had been used to carrying dhoollies, to form a nucleus, the requisite numbers to be made up by other men, the resulting corps to be trained in the carriage of wounded, first aid, drill and discipline. For this purpose a special staff was employed.

Before the advent of the Army Bearer Corps each regiment enlisted its own kahars, the regimental medical officers more or less acting as the recruiting officers. Each frontier force regiment had thirty-four kahars and one mate, and other regiments had six kahars. When the Army Bearer Corps was formed the regimental kahars were asked if they would transfer to the corps, but only a very small percentage agreed, and the majority preferred to return to their homes. The importance of having as many men of the kahar caste as possible amongst stretcher-bearers cannot be overestimated. These men are Hindus of high caste, and any Indian will receive water or food from them; this is of special importance in the case of field medical units. Again, these men are experts at carrying dhoollies or stretchers, because it is their hereditary job in life. The true kahar can always be recognized by the enlargement of the bursa over the shoulder caused by the constant friction and weight of the dhoolie pole. An ordinary Indian coolie finds it very difficult to carry a stretcher or dhoolie on the shoulder without getting a sore shoulder. In the Derajat Column it was found necessary to provide bearers with pads for the shoulders. This is important so long as the bearers employed are untrained to the carrying of heavy loads upon the shoulders. The following figures give the authorized establishment of the Army Bearer Corps from the time of its formation to 1919.

1 A.M.D. Report for 1896, Appendix iii, paragraph 97.
From 1902 to 1906 the authorized establishment of the Army Bearer Corps was 6,000 men.

In November, 1907, when stretcher carriers were taken into use instead of the old heavy type of dhoolie, the establishment was reduced to an active list cadre of 1,500 men.

During the operations against the Mohmands and Zakka' Khel early in 1908, the dhoolie bearers who had to be temporarily entertained were lamentable failures, and a committee assembled on August 3, 1908, to report on Indian ambulance transport, and recommended, amongst other things, that the peace strength of the Army Bearer Corps should be 5,500 men. Before this recommendation became effective there was a marked deficit in the number of Army Bearer Corps men serving on the active list, and for the Indian Army manoeuvres of 1910 temporary bearers had to be entertained on contract at a flat rate of pay. After these manoeuvres it was suggested that an Imperial Service Corps of ambulance bearers should be raised or formed, on the same lines as the Imperial Service Transport Corps, in those States where the old class of real kahar existed in sufficient numbers, e.g. Chamba. This proposal was dropped chiefly because the corps would be non-combatant, and therefore useless for assisting in keeping the peace, maintaining order, and for State ceremonies in native States.

In 1911 the authorized establishment of the Army Bearer Corps was still only 1,500.

In October, 1913, it was decided to gradually increase the number of men to 4,500 with a reserve of 1,500. By this time it was well recognized that it was not possible to recruit kahars in any large numbers and therefore special stress was laid upon the importance of the initial and subsequent training of the men in their bearer and other medical duties. The plan was to gradually increase the establishment yearly by 1,000 during 1913-14, by 1,000 plus 400 reservists during 1914-15, and by 1,000 plus 1,000 reservists during 1915-16.

Whilst this was being carried out the Great War broke out in August 1914, which materially altered the programme.

In February, 1915, the authorized permanent peace establishment was raised to 6,000, and at the same time the number was raised to 8,500 for the duration of the war.

In May, 1916, a further increase in establishment was sanctioned for the period of the war, bringing the numbers up to 14,500 men, and again in March, 1917, the numbers were again increased to a total in all of 19,000 men, which number proved sufficient until the end of the war.

The Army Bearer Corps men provided for these operations (1919-20) taken as a whole were much better than might have been anticipated. Relatively very few were of the true kahar caste, but a considerable number had seen service in one or other of the theatres of war during 1914-18 and were invaluable in teaching the younger men their craft.
All had been trained at one or other of the company headquarters of the Army Bearer Corps; they were willing, and, with a little supervision, maintained a smart appearance and good discipline. The Gurkhas and Garhwalies were particularly good and being accustomed from infancy to running up and down hills in their own homes were admirably suited to the carrying of patients over the type of terrain encountered.

A special feature of the campaign was the employment of the bearer unit which has already been referred to. This unit was formed as an experiment and proved sufficiently successful to merit its inclusion in the permanent war establishments since authorized. It was organized in two double companies each commanded by an officer, sub-divided into half companies each commanded by an assistant surgeon. When in the area of operations and not actively employed, these officers and warrant officers were able to devote their whole time to the supervision of the bearers, with the result that the discipline, personal appearance and efficiency of the men reached a very high standard. On parade the men looked smart and soldier-like and before the end of campaign developed a marked esprit de corps. When not employed for the carrying of sick and wounded the bearer unit lent parties of men to combatant units for carrying water to pickets, making sangars, etc., thus relieving a proportion of sepoys who would otherwise have had to do the work, and enabling them to be sent for bathing or other fruitful exercise for the benefit of their health.

(To be continued.)